

IN THE CLAIMS:

- 1 1. (Original) A method of imaging portions of a workpiece located within a field of
2 view of an imaging system, the workpiece having features which are to be detected with
3 the imaging system, the method comprising:
4 illuminating a first portion of the workpiece from a first combination of illumina-
5 tion positions and reduced illumination positions so as to limit a first distribution of en-
6 ergy reflected specularly from a workpiece location corresponding to the first portion;
7 generating output signals to produce image data representative of an image of the
8 first portion;
9 illuminating a second portion of the workpiece from a second combination of il-
10 lumination positions and reduced illumination positions so as to limit a second distribu-
11 tion of energy reflected specularly from a workpiece location corresponding to the second
12 portion, the second combination being non-identical to the first combination as a result of
13 a position of the workpiece portion within the field of view of the imaging system;
14 generating output signals to produce image data representative of an image of the
15 second portion; and
16 detecting the features in images of the first and second image portions based on
17 similarities and differences in the images.
- 1 2. (Original) The method of claim 1 wherein illuminating the first portion and illu-
2 minating the second portion are carried out concurrently.

1 3. (Original) The method of claim 1 further wherein the surface features are ma-
2 chine readable marks.

1 4. (Original) The method of claim 1 further comprising controllably positioning the
2 field of view of the imaging system after illuminating the first portion so as to view the
3 second portion with the imaging system.

1 5. (Original) The method of claim 4 wherein controllably positioning is carried out
2 with a computer-controlled galvanometer-mounted pivotal mirror having a maximum de-
3 flection angle, wherein a maximum field of view of the imaging system is limited by the
4 mirror deflection angle.

1 6. (Original) The method of claim 3 further comprising moving the workpiece rela-
2 tive to the imaging system after illuminating the first portion so as to view the second
3 portion with the imaging system.

1 7. (Original) The method of claim 6 wherein moving is carried out with an X-Y
2 stage.

1 8. (Original) The method of claim 1 wherein the features are marks on a semicon-
2 ductor wafer.

1 9. (Original) The method of claim 1 wherein the features are laser scribed marks on
2 the workpiece, detecting is carried out with by means of a machine vision processor, and
3 wherein illuminating the first and second combinations of illumination positions and re-
4 duced illumination positions introduces sufficient contrast between the features and a
5 background to detect the features at any angular location within a field of view of the im-
6 aging system.

1 10. (Original) The method of claim 1 further including irradiating the workpiece with
2 a laser beam to modify a workpiece surface property wherein a feature is produced by
3 interaction of the laser beam and the workpiece.

1 11. (Currently Amended) A method of imaging portions of a workpiece comprising:
2 illuminating the workpiece with energy from ~~an~~ a plurality of illumination posi-
3 tion positions so as to produce reflected energy from at least first and second portions of
4 the workpiece;
5 attenuating, at a first location between an illumination position and an image loca-
6 tion corresponding to a first portion of the workpiece, at least a first portion of the re-
7 flected energy from the illumination position so as to limit the distribution of reflected
8 energy incident on an reflected from the image location corresponding to a the first work-
9 piece portion of the workpiece;

10 generating output signals to produce image data representative of an image of the
11 first workpiece portion;
12 attenuating, at a second location between an illumination position and an image
13 location corresponding to a second portion of the workpiece, at least a second portion of
14 the reflected energy from the illumination position so as to limit the distribution of ~~re-~~
15 ~~flected energy incident on an~~ reflected from the image location corresponding to a the
16 second workpiece portion ~~of the workpiece~~;
17 generating output signals to produce image data representative of an image of the
18 second workpiece portion; and
19 detecting ~~the~~ features in the images of the first and second ~~image~~ workpiece por-
20 tions based on similarities and differences in the images.

1 12. (Currently Amended) The method of claim 11 wherein the attenuating ~~the first~~
2 ~~and second portions is~~ steps are carried out concurrently.

1 13. (Original) The method of claim 11 further comprising irradiating the workpiece
2 with a laser beam to modify a workpiece surface property wherein a surface feature is
3 produced by interaction of the laser beam with the workpiece.

1 14. (Original) The method of claim 11 wherein attenuating comprises controllably
2 positioning at least one baffle in a path between an illumination position and an image
3 location.